

## **APPENDIX E**

### **Field Sampling For OU 10-04: Wild Onions**

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### **E-1. INTRODUCTION**

This Health and Safety Plan (HASP) appendix establishes the procedures and requirements that will be used to eliminate and/or minimize health and safety risks to persons working at the Operable Unit 10-04 (OU10-04) Remedial Investigation/Baseline Risk Assessment (RI/BRA) Wild Onion sampling sites. For more information on the requirements of the Occupational Safety and Health Administration (OSHA) standard, 29 Code of Federal Regulations (CFR) 1910.120/1926.65, "Hazardous Waste Operations and Emergency Response (HAZWOPER)," see Section 1 of this HASP.

#### **E-1.1 INEEL Site Description**

For details on the location and operational history of the INEEL, see Section 1.1 and Figure 1 of this HASP.

##### **E-1.1.1 Site Description**

The OU 10-04 RI/FS includes sampling plans for the collection of wild onions at the INEEL. The ecological study area (ESA) planned for sample collection extends out in a northeast from INTEC. To determine sampling locations, a reconnaissance investigation will be conducted to establish the specific areas of wild onion growth. It is planned and expected that none of the wild onion sampling locations will be located in chemically or radiologically hazardous areas. For detailed information regarding the ESA, refer to the Work Plan/FSP for the OU10-04 RI/FS.

##### **E-1.1.2 Source, Nature, and Extent of Contamination**

Presently, there is no known contamination or hazards associated with wild onions at the INEEL. For information on data previously collected from the ESA, refer to the Work Plan/FSP for the OU10-04 RI/FS.

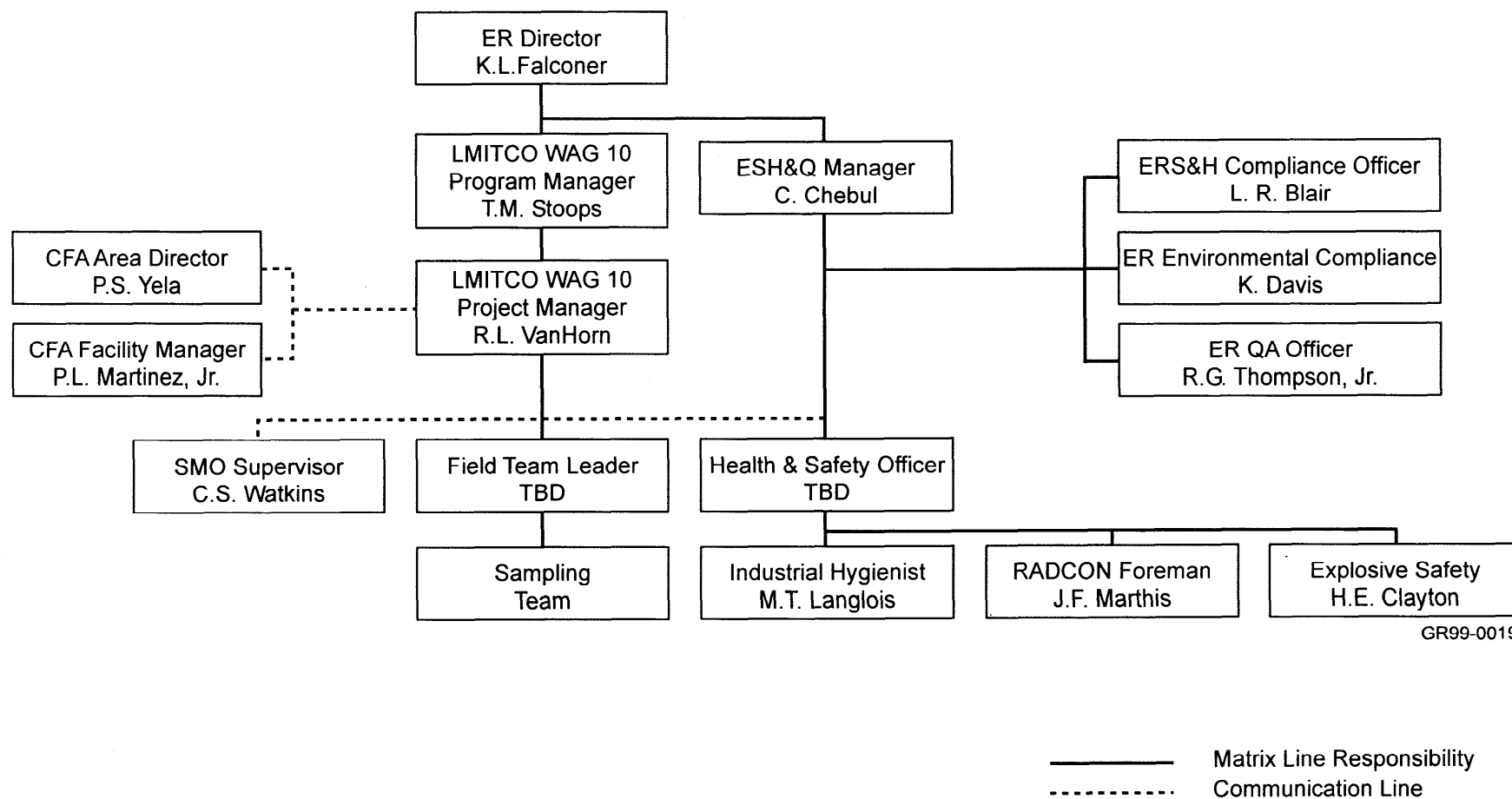
##### **E-1.1.3 Scope of Work**

The scope of work for the collection of wild onions includes:

- Reconnaissance investigation to determine location(s) of wild onion growth
- Collection of wild onion samples from surface soils [ $< 0.15$  m ( $< 0.5$  ft)] using a trowel
- Use of Global Positioning System (GPS) to locate or mark sampling locations
- Labeling, packaging, and shipment of samples to an off-site analytical facility.

## **E-2. KEY SITE PERSONNEL RESPONSIBILITIES**

The organizational structure for this project reflects the resources and expertise required to perform the work, while minimizing risks to worker health and safety, the environment, and the general public. The names of the individuals in key roles at the site, and lines of responsibility and communication, are shown on the organizational chart for the site (Figure E-1). Descriptions and responsibilities of key site personnel are detailed in Section 2 of this HASP.



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**Figure E-1.** Organizational chart for OU10-04 Wild Onion sampling.

### **E-3. RECORDKEEPING REQUIREMENTS**

There are no site-specific changes for record keeping requirements. See Section 3 of this HASP for information and requirements regarding recordkeeping requirements.

## **E-4. PERSONNEL TRAINING**

All site personnel shall receive training as specified in OSHA 29 CFR 1910.120/1926.65 and the LMITCO *Safety and Health Manuals*. Specific training requirements for each worker may vary depending on the hazards associated with their individual job assignment and required access into radiologically controlled areas.

Proof that all required training courses have been completed (including applicable refresher training) must be maintained on the site at all times. Examples of acceptable written training documents include: LMITCO, "40 Hour OSHA HAZWOPER Card," LMITCO, "Respirator Authorization Card," "DOE Certificate of Core Radiological Training II Card," "Medic/First Aid Training Card," and/or a copy of an individual's or department's TRAIN System printout demonstrating completion of training. A copy of the certificate issued by the institution where the training was received is also acceptable proof of training.

Before beginning work at the site, site-specific training will be conducted by the FTL or HSO. This training will consist of a complete review of this HASP and attachments, with time for discussion and questions. At the time of this training, personnel training records will be checked and verified to be current and complete for all required training. Upon completing site-specific training, personnel will sign the training acknowledgement form indicating that they have received this training, understand the tasks and associated hazards that will be conducted, and agree to follow all HASP and other safety requirements.

A daily prejob safety briefing of the task(s) to be performed that day will be conducted by the FTL, HSO, or IH, as applicable. During this briefing, tasks are to be outlined, hazards identified, hazard controls and work zones established, PPE requirements discussed, and employees questions answered. At the completion of this briefing, any required work control documents will be read and signed. Particular emphasis will be placed on lessons learned from the previous day's activities and how tasks can be completed in the safest, most efficient manner. All personnel will be asked to contribute ideas to enhance worker safety and mitigate potential exposures at the site.

**Table E-1.** Required training for wild onion sampling personnel.

Task/Position (Topic)	FTL and HSO (Required)	Field Team (Required)	Nonworkers <sup>d</sup> (Required)	Visitors <sup>e</sup> (Required)
Site-specific training <sup>a</sup>	X	X	X	X
Decontamination <sup>b</sup>	X	X	X	
Hazard communication <sup>b</sup>	X	X	X	X
Fire Extinguisher Training <sup>b</sup>	X	X	X <sup>e</sup>	X <sup>e</sup>
Site control and warning devices <sup>b</sup>	X	X	X	X
HASP Emergency Response Plan (Section 11) <sup>b</sup>	X	X	X	X
CPR and Medic First Aid <sup>c</sup>	X			
Ordinance awareness training	X	X	X	X

a. Training will be documented using HASP acknowledgement forms (site-specific training and 24-hr supervised experience).

b. Will be included in site-specific training.

c. Two Medic First/CPR qualified individuals must be present during site activities.

d. Nonworkers (occasional site workers) who must enter the EZ are required to have the training necessary to perform their assigned tasks within the EZ. This may include the same training as FTL (depending on the task location).

e. Visitors are required to meet the nonworker training requirements, at a minimum, if they enter the EZ.

## **E-5. OCCUPATIONAL MEDICAL SURVEILLANCE PROGRAM**

There are no site-specific changes to the occupational medical surveillance program. For information regarding Occupational Medical Surveillance Programs requirements, see Section 5 of this HASP.



## **E-6. ACCIDENT PREVENTION PROGRAM**

There are no site-specific changes to the Accident Prevention Program. For information regarding the Accident Prevention Programs, refer to Section 6 of this HASP.

## **E-7. SITE CONTROL AND SECURITY**

For definitions and descriptions of the various zones and areas used to control site access, tasks, and uses (i.e., Exclusion Zone, Contamination Reduction Zone and Corridor, Support Zone, etc.), refer to Section 7 of this HASP. Work zones will not be required for the wild onion sampling activities unless sampling takes place in identified contaminated areas. If sampling is done in contaminated areas, temporary work zones will be established as defined in Section 7 of this HASP.

## E-8. HAZARD ASSESSMENT

Section 8 of this HASP provides general information regarding the types of hazards that may be encountered while performing field work. Specific hazards associated with sampling activities are presented in this section.

Table E-2 summarizes the anticipated activities and task to be performed and the types of hazards that may be associated with the tasks.

Table E-3 provides an evaluation of the contaminants that may be encountered during field activities and details on exposure limits, routes of exposure, symptoms of overexposure, and the potential for exposure.

Tables E-4 and E-5 outline specific monitoring requirements and monitoring equipment that may be used for specified tasks or activities.

**Table E-2.** OU10-04 Wild Onion sampling activities and associated hazards.

Activity or Task	Associated Hazards or Hazardous Agent
Premobilization	Equipment movement/vehicle traffic Lifting/back strain
Performance of Work	Chemical/inorganic contaminants
– daily preparation	Equipment movement/vehicle traffic
– sampling	Lifting/back strain
– decontamination	Heat or Cold exposure
– documentation	Biological (snakes bits, Haunta virus)
– packaging & shipping	Slip/trip/fall
– daily closeout	
<b>Demobilization and Closeout of Project</b>	Chemical/inorganic contaminants Equipment movement Lifting/back strain

**Table E-3.** Evaluation of contaminants at the OU10-04 Wild Onion sites.

Material or Chemical (CAS #)	Exposure Limit <sup>a</sup> (PEL/TLV)	Routes of Exposure <sup>b</sup>	Symptoms of Overexposure <sup>c</sup>	Target Organs/System	Carcinogen? (source) <sup>d</sup>	Exposure Potential <sup>e</sup>
<b>Organic Compounds</b>						
TNT 118-96-7	TLV— 0.5 mg/m3 PEL— 1.5 mg/m3	Inh, abs, ing	Liver damage, cyanosis, kidney damage, dermatitis,	Liver, cardiac, kidneys, skin, CNS	A1- ACGIH	Low
RDX 121-82-4	TLV - 1.5 mg/m3 PEL - 1.5 mg/m3	Inh, abs, ing	Muscle twitch, convulsions, cramps,	Skin, resp, CNS	A2- ACGIH Yes - OSHA	Low
<b>Metals and Inorganic Compounds</b>						
Arsenic 7440-38-2	TLV- 0.01 mg/m3	Inh, ing	Skin and eye irr, CNS	CNS, Skin, liver	Yes - OSHA ACGIH A-1	Low
Barium 7440-39-3	TLV - 0.5 mg/m3	Inh, ing	Irritation, GI, Burns, Muscle toxin	Muscle, GI	No	Low
Cadmium 7440-43-9	TLV - 0.002 mg/m3	Inh, ing	Kidney failure, respiratory system collapse, cancer	Kidney, lung	ACGIH A-2 OSHA	Low
Chromium (total +3) 7440-47-3	TLV 0.5 mg/m3	Inh, ing	Irritation, dermatitis	Skin	NO	Low
Lead 7439-92-1	TLV 0.05 mg/m3 PEL 0.05 mg/m3	Inh, Ing	Infertility, tremors,	CNS, GI, Blood, Kidney, Reproductive	No	Low
Mercury 7439-97-6	TLV 0.025 mg/m3	Inh, Ing	Neuropathy, visual impairment, kidney failure	CNS, kidney	No	Low
Selenium 7782-49-2	TLV 0.2 mg/m3	Inh, Ing	Skin and respiratory Irritation	Skin, Resp	No	Low
Silver 7440-22-4	TLV 0.1 mg/m3	Inh, Ing	Argyria, Irritation	Skin, eye, Resp	No	Low

a. ACGIH 1997 TLV Booklet and OSHA 29 CFR 1910 substance specific standards.  
b. (Ih) inhalation; (Ig) ingestion; (S) skin absorption; (Con) contact hazard.  
c. (nervous system) dizziness/nausea/light-headedness; (dermis) rashes/itching/redness; (respiratory) respiratory effects; (eyes) tearing/irritation.  
d. If yes, identify agency and appropriate designation (ACGIH A1 or A2; NIOSH; OSHA; IARC; NTP).  
e. Estimates (≈) of specific compounds

VD = vapor density (Air = 1)      CNS = central nervous system      CVS = cardiovascular system      RESP = respiratory system  
GI = gastrointestinal      PEL = permissible exposure limit      TLV = threshold limit value      REM = roentgen equivalent man

**Table E-4.** Project hazards that may be monitored.<sup>a</sup>

Task or Activity	Hazards to be Monitored
Phase I: Mobilization	None
Phase II: Performance of Work	Heat and/or Cold stress (as deemed necessary by IH)
Phase III: <u>Demobilization</u> and Closeout	None
Monitoring will be conducted as deemed appropriate by project IH based on specific tasks and site conditions.	

**Table E-5.** Equipment to be used for monitoring hazards.

Chemical or Radiological Hazard to be Monitored or Sampled	Equipment and Monitoring/Sampling Method	
Heat/cold stress	Heat Stress—WBGT, body wt, fluid intake	Cold Stress—ambient air temp, wind chill charts

## E-9. PERSONAL PROTECTIVE EQUIPMENT

PPE requirements for soil sampling of explosive compounds are outlined in Table E-6. For general descriptions of the types of PPE and the levels of PPE, refer to Section 9 of this HASP.

**Table E-6.** PPE requirements and modifications for sampling of explosive compounds.

Task or Assignment	Level of PPE	Modifications and Comments
<b>PHASE I ACTIVITIES</b>		
Preparation of sampling equipment, mobilization and deployment	Modified Level D	Work clothes or coveralls. Work gloves, eye protection, and head protection as warranted.
<b>PHASE II ACTIVITIES</b>		
1. Sample Collection	Modified Level D	Work clothes or coveralls. Work gloves and Nitrile liners, eye protection, and head protection as warranted..
2. Equipment Decontamination	Modified Level D	Work clothes or coveralls. Work gloves and Nitrile liners, eye protection, and head protection as warranted.
3. Sample preparation and shipment	Modified Level D	Work clothes or coveralls. Work gloves, eye protection, and head protection as warranted.
<b>PHASE III ACTIVITIES</b>		
Demobilization and Closeout	Modified Level D	Work clothes or coveralls. Work gloves, eye protection, and head protection as warranted.

## **E-10. DECONTAMINATION PROCEDURES**

For general information describing the control and prevention of contamination and emergency decontamination procedures, refer to Section 10 of this HASP. For specific procedures for the decontamination of sampling equipment, refer the OU10-04 Work Plan/FSP for wild onions.

During field activities, a wash station will be available to field personnel for washing their hands and face. All personnel will use the wash station following sampling activities. An eyewash station will also be available onsite.

## E-11. EMERGENCY RESPONSE PLAN

General information regarding Emergency Response Plans, (including types of emergency events, emergency facilities, emergency communications, emergency response roles and responsibilities, recognition of emergency warnings, and reentry/recovery after an emergency event) are covered in Section 11 of this HASP. Site-specific information such as emergency equipment, emergency contact lists, etc. are covered in this section.

Per MCP-2725 (*Field Work at the INEEL*), the CFA Emergency Response Organization will ensure personnel performing field work are notified of emergency conditions and the appropriate actions to take via radio and/or pager communications. As such, it is required that the FTL or HSO is available and able to communicate with field workers at all times. At each site to be sampled, the routes to the CFA medical facilities were reviewed.

In the event of an emergency, be prepared to provide the following information to the emergency response organization:

- Your name, telephone number, pager number
- Exact location of the emergency
- Nature of the emergency including time of occurrence, current site conditions, and special hazards in the area
- Injuries, if any, including numbers of injured, types of injuries, conditions of injured
- Additional information, as requested.

**Table E-7.** Emergency response equipment to be maintained at the site.

Equipment Name and Quantity Required	Location at Task Site	Responsible Person	Frequency of Inspection
Fire extinguishers One ABC per vehicle	Vehicle	FTL, HSO, or IH	Daily
First aid supplies One per vehicle	Vehicle	FTL, HSO, or IH	Weekly
Eyewash station One for Sampling Team	Vehicle	FTL, HSO, or IH	Weekly
Communication equipment 1-Pager, 1-Radio, and 1-Cell phone per FTL	On person	FTL, HSO, or IH	Daily
Shovel One per vehicle	Vehicle	FTL, HSO, or IH	Daily



**Table E-8.** Project emergency contact list to be posted at Job Site.

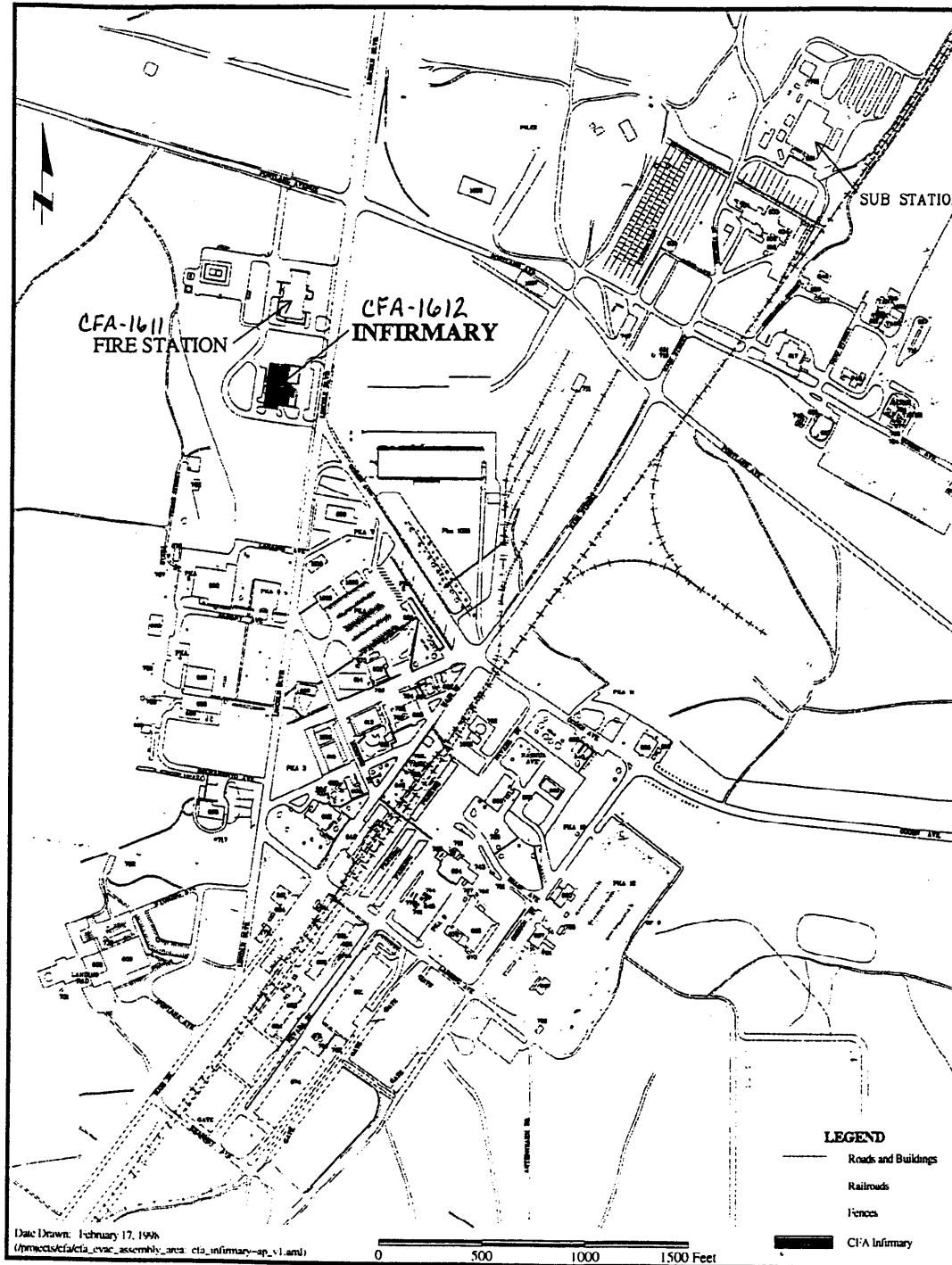
Contact Title	Contact Name	Phone #/ Radio Net	Pager Number
Warning Communications Center (WCC)		777, 6-1515, KID-240	
CFA Facility Manager	Paul Martinez	6-2150	6646
CFA Area Director	Paul Yela	6-8899	6264
CFA ESH&QA Supervisor	Robert McFarlane	526-8205	5712
First Aid (CFA Medical Dispensary, CFA-1612)		777, 6-2356	
Occupational Medical Program		6-1596	
Fire/Security		777	
LMITCO ER Project Manager	Robin Van Horn	6-8531	5204
LMITCO CFA Radiological Control	John Marthis	6-2558	6072
LMITCO ER HSO/Industrial Hygiene	Mark Langlois	6-0127	9042
LMITCO Field Team Leader (FTL)	TBD		
LMITCO ER S&H Compliance Officer	Lawrence Blair	6-4113	5869
LMITCO ER Environmental Compliance Officer	Katherine Davis	6-4949	7833
LMITCO ER ES&H/QA Manager	Charles Chebul	6-9566	5689
CFA DOE-ID Facility Representative	Roderick Taft	6-8838	6250

## **E-12. NOTIFICATION RESPONSIBILITIES**

This reference list will be posted at each support zone and to the offices of those assigned notification responsibilities.

**Table E-9.** Notification responsibilities.

RESPONSIBLE PERSON or ORGANIZATION		Phone	Pager	Radio
FTL or HSO notifies	INEEL Emergency Response Telephone Number	777	—	KOK 130
FTL or HSO notifies	Warning Communication Center (WCC)	777 or 526-1515	—	KID 240
FTL or HSO notifies	INEEL Spill Notification Team (SNT), for spills	—	6400	—
FTL or HSO notifies	INEEL Occupational Medical Program, for occupational illness or injury	526-1596	—	—
FTL or HSO notifies	CFA Facility Manager	526-2150	6646	—
FTL or HSO notifies	CFA Area Director	526-8899	6264	—
FTL or HSO notifies	CFA ESH&QA Supervisor	526-8205	5712	—
FTL or HSO notifies	LMITCO Project Manager	526-8531	5204	
FTL, HSO, or PM notifies	LMITCO ER S&H Compliance Officer	526-4113	5869	
FTL, HSO, or PM notifies	LMITCO ER Environmental Compliance Officer	526-4949	7833	
FTL, HSO, or PM notifies	CFA DOE Facility Representative	526-8838	6250	—
FTL, HSO, or PM notifies	LMITCO ER ES&H/QA Manager	526-9566	5689	—



**Figure E-2.** Location of CFA Medical Facility and Fire Station.